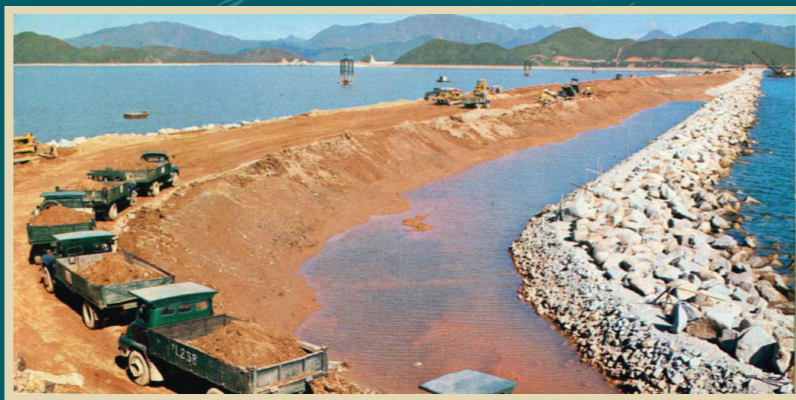


船灣淡水湖 Plover Cove Reservoir

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船灣淡水湖是香港第二大水塘，亦是全球第一個在海中興建的水塘，位於八仙嶺及船灣郊野公園。水塘的龐大興建工程是一個史無前例的項目，工程師把海灣用堤壩攔起，將海水抽出，然後用作儲存原水。建築工程於1960年展開，並於1968年建成，當時容量達1.7億立方米。其後於1970年開始進行主壩加高工程，並於1973年完成後，水塘容量增至2.3億立方米。船灣淡水湖的主壩長約2公里，用沙和碎石分層堆砌而成。

The Plover Cove Reservoir, located in the Pat Sin Leng and Plover Cove Country Park, is the second largest reservoir in Hong Kong and first reservoir built in the sea over the world. The mega construction works of this reservoir was unprecedented. Engineers dammed the sea inlet, then pumped out the sea water and filled it with raw water. The construction works commenced in 1960 and completed in 1968, providing a capacity of 170 million cubic meters. Afterwards, the works on increasing the height of the main dam began in 1970 and was completed in 1973, enlarging the reservoir capacity to 230 million cubic meters. The main dam of Plover Cove Reservoir, which is approximately 2 kilometres long, is built of layers of sand and gravel.



1 船灣淡水湖的歷史

History of Plover Cove Reservoir

這個工程計劃相當繁複，除了興建大型水壩外，還包括濾水廠、抽水站、水管管網等配套設施，例如沙頭角半島與八仙嶺一帶山脈興築引水道、大美督原水抽水站、大埔頭原水抽水站、從大埔至沙田的引水隧道、下城門水塘、三條由大埔往沙田的雙程隧道、沙田濾水廠、於其中鋪設水管通往九龍市區的獅子山隧道、輸水至港島的海底水管、獅子山配水庫，以及慈雲山配水庫等。

水塘在1968年建成後，食水自大美督原水抽水站起，由大埔頭原水抽水站輸送至沙田濾水廠作處理。

The construction project was complicated. In addition to the construction of large dams, it also included the construction of water treatment works, pumping stations, water main network and other ancillary facilities such as the catchwater at the mountain ranges of Sha Tau Kok Peninsula and Pat Sin Leng, the Tai Mei Tuk Raw Water Pumping Station, Tai Po Tau Raw Water Pumping Station, the catchwater tunnel from Tai Po to Sha Tin, Lower Shing Mun Reservoir, three two-way tunnels from Tai Po to Sha Tin, Sha Tin Water Treatment Works, Lion Rock Tunnel connecting to Kowloon area with main laying works, the submarine main distributing water to Hong Kong Island, Lion Rock Service Reservoir and Tsz Wan Shan Service Reservoir, etc.

With the completion of the reservoir in 1968, fresh water was pumped from the Tai Mei Tuk Raw Water Pumping Station and then delivered from Tai Po Tau Raw Water Pumping Station to Sha Tin Water Treatment Works for treatment.



4 大埔頭原水抽水站

Tai Po Tau Raw Water Pumping Station

大埔頭原水抽水站共有四期，分別於1964、1973、1984及1994年啟用。該抽水站位於整個原水供水網絡的中心地帶，它負責調配原水至新界區各濾水廠及水塘。在正向運作模式下，大埔頭原水抽水站會將來自木湖的東江水配送至大埔濾水廠、沙田濾水廠及船灣淡水湖。在反向運作模式下，它會把來自船灣淡水湖的原水，配送致上水濾水廠、牛潭尾濾水廠、凹頭濾水廠、油柑頭濾水廠及大欖涌水塘。現時大埔頭原水抽水站由四組泵房組成，以便靈活調配原水，適用於各種運作模式，以應付不同的供水需求。

Tai Po Tau Raw Water Pumping Station has four phases which were commissioned in 1964, 1973, 1984 and 1994 respectively. The pumping station is located at the heartland of the whole raw water supply network and responsible to distribute raw water to a number of water treatment works and impounding reservoirs in the New Territories. Under the normal operation mode, Tai Po Tau Raw Water Pumping Station transfers the Dongjiang water from Muk Wu to Tai Po Water Treatment Works, Sha Tin Water Treatment Works and Plover Cove Reservoir. Under the reverse operation mode, the pumping station transfers raw water from Plover Cove Reservoir to Sheung Shui Water Treatment Works, Ngau Tam Mei Water Treatment Works, Au Tau Water Treatment Works, Yau Kom Tau Water Treatment Works and Tai Lam Chung Reservoir. The pumping station consists of four pumping rooms which facilitate flexible distribution of raw water with various operation modes in order to meet different demands of water supply.



2 船灣昔日村落

The Old Villages of Plover Cove

船灣淡水湖的工程影響當時居住船灣河沿岸的一千多名村民。堤壩還在興建時，當局已籌備將引水道流域範圍內六個村落的居民遷徙，在大埔墟興建13幢4層的樓宇安置村民，該處被稱為六鄉新村。六鄉新村位於寶湖道，而寶湖道英文為Plover Cove Road，名字連結與興建船灣淡水湖的故事。

The construction works of Plover Cove Reservoir affected 1,000 or more villagers living on the banks of Plover Cove at that time. While the dam was still under construction, the Administration had made preparations to evacuate the inhabitants of six villages within the catchment basin. The inhabitants were accommodated to 13 blocks of 4-storey buildings in Tai Po Market which were named Luk Heung San Tsuen. Luk Heung San Tsuen is located in Plover Cove Road which shows linkage to the story of construction of Plover Cove Reservoir.



5 尼龍水壩

The Nylon Dam

大埔頭原水抽水站旁邊的大埔林村河上有一條尼龍水壩。水壩可以通過氣壓控制升降，當尼龍水壩升高時，河水聚集並且水位相應上升，當河水水位高於大埔頭原水抽水站進水口時，林村河水會流入抽水站內的原水供應系統。當大雨或水質渾濁時，尼龍壩會被降低，以排解暴漲河水的壓力和避免引入渾濁的河水進入原水供應系統。

There is a nylon dam at Tai Po Lam Tsuen River near Tai Po Tau Raw Water Pumping Station. The level of dam can be adjusted by controlling the air pressure. The river water level will rise when the nylon dam inflates. If the river water level is higher than the water inlet of the pumping station, the river water will flow into the raw water supply system inside the pumping station. When there is heavy rainstorm or the river water becomes turbid, the nylon dam will deflate in order to relieve the risk of flooding and prevent the turbid water from entering the raw water supply system.

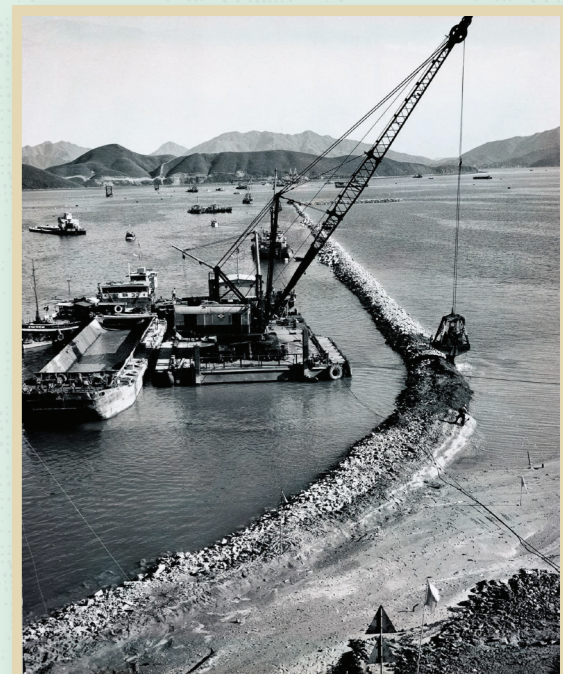


1 船灣淡水湖的歷史

History of Plover Cove Reservoir

在50年代，人口增長和經濟發展使社會對食水的需求急劇上升，水資源供不應求。有一天，前水務局局長毛謹先生在船灣海邊遊船時，想到把船灣海用堤壩攔起，透過抽出海水細注入原水，建成水塘，「船灣淡水湖計劃」的工程計劃便於1960年展開。

In the 1950s, the demand for drinking water in the society grew rapidly due to the expanding population and economic development thereby water was undersupplied. One day, when the former Director of Water Supplies Mr. T.O. Morgan was on a boat trip in the Plover Cove, he had a sudden thought of transforming the bay into a reservoir by damming the sea inlet, pumping out the sea and filling with raw water. Therefore, the government started the construction of "Plover Cove Reservoir Scheme" in 1960.



3 船灣附近的地質環境

The Surrounding Geological Environment of Plover Cove

船灣淡水湖除了從大美督連接白沙頭洲的主壩，還有兩個副壩從白沙頭洲連接小島東頭洲以及名叫伯公咀的海岬，把整個船灣完整圍封起來。香港迄今發現藏有化石證據的最古老地層是源於泥盆紀的沉積岩，主要在赤門海峽兩岸出露，也可在白沙頭洲找到。白沙頭至黃竹角咀海岸一帶的碎屑沉積岩主要由砂岩、含礫砂岩和礫岩組成，名為「黃竹角咀組」。這些岩層受到地質構造運動的褶皺和錯動影響，已近乎直立，景緻磅礮壯觀。

In addition to the main dam connecting Tai Mei Tuk and Harbour Island, Plover Cove Reservoir includes two supplementary dams connecting Harbour Island, the small island Tung Tau Chau, and a cape named Pak Kung Tsui such that Plover Cove is completely enclosed. The oldest stratum with evidence of fossil found so far in Hong Kong is the sedimentary rock formed in Devonian Period, which is mainly exposed on both sides of Tolo Channel and Harbour Island. The clastic sedimentary rocks in the shore area from Harbour Island to Wong Chuk Kok Tsui are mainly composed of sandstone, pebble-bearing sandstone and conglomerate, named "Bluff Head Formation". Affected by the folds and dislocations of geological tectonic movements, these rock formations are almost upright and the scenery is spectacularly magnificent.

6 獅子山高地食水主配水庫

Lion Rock High Level Fresh Water Primary Service Reservoir

獅子山高地食水主配水庫是「船灣淡水湖計劃」的一部分，容量達102,587立方米。食水在沙田濾水廠過濾後，經由抽水站輸送到多個沙田區的配水庫及九龍獅子山的配水庫群，再分配給用戶。

全港共有超過220個配水庫，配水庫的作用在於短暫備存食水或海水，以應付每天耗水高峰期的需求，亦有助控制供水水壓。在連接至配水庫的輸水幹管未能運作時，備存的食水或海水亦可充當緩衝，維持供應。

Lion Rock High Level Fresh Water Primary Service Reservoir is part of the Plover Cove Water Scheme, with a capacity of 102,587 cubic metres. Fresh water treated at Sha Tin Water Treatment Works is pumped to service reservoirs in Sha Tin and service reservoirs group in Lion Rock in Kowloon for distribution to consumers.

There are more than 220 service reservoirs in Hong Kong. Their role is to temporarily store fresh water or sea water to meet the peak demand of water consumption every day. It also helps control the pressure of water supply. When the trunk water mains to the service reservoirs fail to operate, the stored fresh water or sea water in service reservoirs can also acts as a buffer to maintain adequate supply.



獅子山
Lion Rock

大帽山
Tai Mo Shan

大埔頭原水抽水站
Tai Po Tau
Raw Water Pumping Station

八仙嶺
Pat Sin Leng

獅子山食水配水庫群
Lion Rock High Level Fresh Water
Primary Service Reservoirs Group

船灣淡水湖
Plover Cover Reservoir

沙田濾水廠
Sha Tin Water Treatment Work

